

IN THE CLAIMS

Pursuant to 37 CFR §1.121(c), this listing of the claims, including the text of the claims, will serve to replace all prior versions of the claims, in the application.

Please cancel claims 7 and 14 without prejudice or disclaimer of their subject matter, amend claims 4, 8, 11 and 15 as follows:

1 1. (Original) An apparatus for providing inter-processor communication using transmission
2 control protocol/Internet protocol in a communication system, the apparatus comprising:

3 an Ethernet interface module providing an interface between an Ethernet device driver and
4 an inter-processor communication module, determining a type of a received message, transmitting
5 the message when the determined type of the message is non-frame data, queuing the message in a
6 first mailbox corresponding to frame data when the determined type of the message is the frame data;

7 a message process module receiving the message transmitted by said Ethernet interface
8 module, queuing the message received from said Ethernet interface module in a second mailbox
9 corresponding to the non-frame data; and

10 a common application programming interface module providing an interface for performing
11 data transmission and reception through said message process module, for management of the first
12 and second mailboxes, for inter-processor communication buffer management, and for an inter-
13 processor communication control function, said common application programming interface module
14 being in communication with said Ethernet interface module and said message process module.

1 2. (Original) The apparatus of claim 1, said message process module determining a number
2 of messages queued in the second mailbox, deleting oldest messages from the second mailbox, and
3 queuing latest messages in the second mailbox when the number of messages is greater than a
4 predetermined number of messages.

1 3. (Original) The apparatus of claim 1, said common application programming interface

2 module, Ethernet interface module, and message process module communicating with each other
3 in accordance with transmission control protocol/Internet protocol.

1 4. (Currently Amended) A system providing inter-processor communication using
2 transmission control protocol/Internet protocol, the system comprising:

3 an access network controller being coupled to an Ethernet network and operating in
4 accordance with software instructions corresponding to 1x evolution-data only (1xEV-DO);

5 a wide area switching module being coupled to the Ethernet network and performing
6 operation and state management;

7 a data location register being coupled to the Ethernet network, performing subscriber
8 management and providing session information to said access network controller;

9 an element management system being coupled to the Ethernet network and performing
10 operation and management of the Ethernet network and said data location register;

11 a server being coupled to the Ethernet network and performing authentication for a 1x
12 evolution-data only (1xEV-DO) subscriber; and

13 an access network transceiver system transmitting 1x evolution-data only (1xEV-DO) data
14 and signalling data to said access network controller through the Ethernet network;

15 said access network controller performing a matching function with said access network
16 transceiver system for a packet data service, and performing call processing corresponding to 1x
17 evolution-data only (1xEV-DO);

18 said access network controller, wide area switching module, and element management system
19 communicating with each other by transmission control protocol/Internet protocol through the
20 Ethernet network;

21 at least one communication subsystem;

22 wherein the communication subsystem comprising

23 an Ethernet interface module providing an interface between an Ethernet
24 device driver and an inter-processor communication module, the Ethernet device driver being

25 communication with the Ethernet network, said Ethernet interface module determining a type of a
26 received message, transmitting the message when the determined type of the message is non-frame
27 data, queuing the message in a first mailbox corresponding to frame data when the determined type
28 of the message is the frame data;

29 a message process module receiving the message transmitted by said Ethernet
30 interface module, queuing the message received from said Ethernet interface module in a second
31 mailbox corresponding to the non-frame data; and

32 a common application programming interface module providing an interface
33 for performing data transmission and reception through said message process module, for
34 management of the first and second mailboxes, for inter-processor communication buffer
35 management, and for an inter-processor communication control function, said common application
36 programming interface module being in communication with said Ethernet interface module and said
37 message process module, the inter-processor communication module being selected from among said
38 access network controller, said wide area switching module, and said element management system.

1 5. (Original) The system of claim 4, said server corresponding to an access network-
2 authorization, authentication, accounting server providing system management, an operator interface,
3 and a graphic user interface for maintenance.

1 6. (Original) The system of claim 5, the system corresponding to an Internet protocol based
2 evolution-data only (EV-DO) system.

Claim 7. (Canceled)

1 8. (Currently Amended) The system of claim [[7]] 6, said message process module

2 determining a number of messages queued in the second mailbox, deleting oldest messages from the
3 second mailbox, and queuing latest messages in the second mailbox when the number of messages
4 is greater than a predetermined number of messages.

1 9. (Original) The system of claim 8, said common application programming interface
2 module, Ethernet interface module, and message process module communicating with each other
3 in accordance with transmission control protocol/Internet protocol.

1 10. (Original) The system of claim 9, the communication subsystem including software for
2 transmitting and receiving the messages between application tasks in said access network controller,
3 wide area switching module, and element management system.

1 11. (Currently Amended) A method providing inter-processor communication using
2 transmission control protocol/Internet protocol in a communication system, the method comprising:
3 operating an access network controller in accordance with software instructions
4 corresponding to 1x evolution-data only (1xEV-DO), the access network controller being coupled
5 to an Ethernet network, the access network controller performing call processing corresponding to
6 1x evolution-data only (1xEV-DO);

7 performing operation and state management with a wide area switching module coupled to
8 the Ethernet network;

9 performing subscriber management with a data location register coupled to the Ethernet
10 network, the data location register providing session information to the access network controller;

11 performing operation and management of the Ethernet network and of the data location
12 register with an element management system coupled to the Ethernet network;

13 performing authentication for a 1x evolution-data only (1xEV-DO) subscriber with a server
14 coupled to the Ethernet network; [[and]]

15 transmitting 1x evolution-data only (1xEV-DO) data and signalling data to the access

16 network controller through the Ethernet network with an access network transceiver system, the
17 access network controller performing a matching function with the access network transceiver
18 system for a packet data service; [[and]]

19 performing intercommunication between the access network controller, wide area switching
20 module, and element management system by transmission control protocol/Internet protocol through
21 the Ethernet network;

22 determining a type of a received message;

23 transmitting the message when the determined type of the message is non-frame data;

24 queuing the message in a first mailbox corresponding to frame data when the determined type
25 of the message is the frame data;

26 said determining, said transmitting, and said queuing of the message in the first mailbox
27 being performed by an Ethernet interface module provided between an Ethernet device driver and
28 an inter-processor communication module, the inter-processor communication module being selected
29 from among the access network controller, the wide area switching module, and the element
30 management system, the Ethernet device driver being communication with the Ethernet network;

31 receiving the message transmitted by the Ethernet interface module at a message process
32 module;

33 queuing the message received from the Ethernet interface module in a second mailbox
34 corresponding to the non-frame data, said queuing of the message in the second mailbox being
35 performed by the message process module; and

36 providing a common application programming interface module for performing data
37 transmission and reception through the message process module, for management of the first and
38 second mailboxes, for inter-processor communication buffer management, and for an inter-processor
39 communication control function, the common application programming interface module being in
40 communication with the Ethernet interface module and the message process module.

1 12. (Original) The method of claim 11, the server corresponding to an access network-
2 authorization, authentication, accounting server providing system management, an operator interface,
3 and a graphic user interface for maintenance.

1 13. (Original) The method of claim 12, the communication system corresponding to an
2 Internet protocol based evolution-data only (EV-DO) system.

Claim 14. (Canceled)

1 15. (Currently Amended) The method of claim ~~[[14]]~~ 11, further comprising:
2 determining a number of messages queued in the second mailbox;
3 deleting oldest messages from the second mailbox; and
4 queuing latest messages in the second mailbox when the number of messages is greater than
5 a predetermined number of messages, said determining of the number of messages queued in the
6 second mailbox, said deleting of the oldest messages, and said queuing of the latest messages being
7 performed by the message process module.

1 16. (Original) The method claim 15, the common application programming interface
2 module, Ethernet interface module, and message process module communicating with each other
3 in accordance with transmission control protocol/Internet protocol.